



OC-008 Incidence of malignant disease outside the head and neck region in head and neck cancer

Bernsdorf, M.; Loft, A.; Berthelsen, A.; Specht, L.; Kjems, J.; Gothelf, A.; Kristensen, C.; Friborg, J.

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H.C. Ko¹, S. Chen², A. Wieland³, M. Yu², A. Baschnagel¹, J. Brower¹, T. McCulloch³, G. Hartig³, P. Harari¹, M. Witek¹

¹University of Wisconsin Hospitals and Clinics, Department of Human Oncology, Madison, USA

²University of Wisconsin Hospitals and Clinics, Department of Biostatistics and Medical Informatics, Madison, USA

³University of Wisconsin Hospitals and Clinics, Department of Otolaryngology, Madison, USA

Purpose or Objective

There is a paucity of level one evidence and a limited number of institutional series guiding management of patients with head and neck squamous cell carcinoma and N3 nodal disease (N3 HNSCC). Thus, larger data sets are essential to generate robust data appropriate for directing patient care.

The current study utilized the National Cancer Data Base (NCDB) to evaluate patterns of care and clinical outcomes for patients with N3 HNSCC.

Material and Methods

We performed a retrospective analysis of patients with N3 HNSCC identified in the NCDB treated with either primary surgery followed by adjuvant therapy or primary chemoradiotherapy (CRT). Factors associated with treatment were analyzed with binary logistic and multivariate regression. Multivariate (MVA) Cox proportional hazards analysis was utilized to determine factors correlated with overall survival. Kaplan-Meier curves with inverse probability of treatment-weighting were used for survival analysis.

Results

We identified 1,464 (30%) and 3,403 (70%) patients with N3 HNSCC treated with either primary surgery or CRT, respectively. Increasing age, non-private/unknown insurance, oropharyngeal or hypopharyngeal primaries, increasing tumor size, and higher T-stage were associated with CRT, whereas high-volume center, lower T-stage, oral cavity primary, and being diagnosed in more contemporary years were associated with surgery. On Cox proportional MVA, increasing age, non-white race, non-private/unknown insurance, increasing tumor size, T4 stage, and CRT were associated with lower overall survival. Propensity-adjusted median survival was 54.2 and 44.8 months for surgery and CRT, respectively ($p = 0.0589$). In subgroup analysis, oropharyngeal primary subsite gained a survival advantage with surgery versus CRT with median survivals of 86.0 and 61.9 months, respectively ($p = 0.0153$).

Conclusion

The majority of N3 HNSCC patients receive primary CRT. After adjustment for factors influencing treatment approach, patients treated with surgery and CRT exhibit similar survival outcomes with 5-year overall survival approaching 30-50% depending on the primary tumor subsite. Patients with oropharynx primaries benefit from primary surgical approach in terms of overall survival. Those with oropharynx HPV-positive tumors represent a favorable subset of N3 HNSCC patients. These data represent the most comprehensive analysis of N3 HNSCC outcomes and serve as a foundation to guide clinical management, as well as future research endeavors.

OC-007 Sentinel node biopsy for early stage oral cancer; experience of 2 Dutch head and neck centers

I. Den Toom^{1,2}, L. Janssen¹, R. Van Es¹, O. Hoekstra³, H. Karagozoglu⁴, B. De Keizer⁵, A. Van Schie³, S. Willems⁶, S. Van Weert², R. Leemans², E. Bloemena^{4,7}, R. De Bree^{1,2}

¹UMC Utrecht Cancer Center, Head and Neck Surgical Oncology, Utrecht, The Netherlands

²VU University Medical Center, Otolaryngology-Head and

Neck Surgery, Amsterdam, The Netherlands

³VU University Medical Center, Radiology and Nuclear Medicine, Amsterdam, The Netherlands

⁴VU University Medical Center/Academic Centre for Dentistry, Oral and Maxillofacial Surgery / Oral Pathology, Amsterdam, The Netherlands

⁵University Medical Center Utrecht, Radiology and Nuclear Medicine, Utrecht, The Netherlands

⁶University Medical Center Utrecht, Pathology, Utrecht, The Netherlands

⁷VU University Medical Center, Pathology, Amsterdam, The Netherlands

Purpose or Objective

To evaluate the results of sentinel lymph node biopsy (SLNB) in patients diagnosed with a T1-T2 oral squamous cell carcinoma and clinically negative (NO) neck in two Dutch Head and Neck centers.

Material and Methods

Retrospective analysis of 226 previously untreated patients, who underwent SLNB between 2007 and 2016. The SLNB procedure consisted of preoperatively performed lymphoscintigraphy, intraoperative detection using blue dye and/or gamma probe guidance and histopathological examination including step-serial sectioning and immunohistochemical stainings. A positive SLNB was followed by a neck dissection, while regular follow-up with ultrasound guided fine-needle aspiration cytology was followed in case of a negative SLNB.

Results

The identification rate was 97% (220/226). At least one histopathologically positive SLN was found in 52 of 220 patients (24%). Sensitivity of SLNB was 83% and the negative predictive value was 93%. Patients with a floor of mouth tumor showed a lower sensitivity (67% vs. 88%, $P=0.11$) and negative predictive value (90% vs. 95%, $P=0.31$) compared with patients with other tumor locations. Median follow-up was 22 months (1-104). Overall survival, disease-specific survival and disease-free survival for SLN negative and SLN positive patients were 77%, 90% and 99% vs. 73%, 86% and 87%.

Conclusion

SLNB is a safe and reliable diagnostic staging technique for detection of occult lymph node metastasis in patients with early stage (T1-T2, cN0) oral cavity squamous cell carcinoma, but needs improvement in patient with floor of mouth tumors.

OC-008 Incidence of malignant disease outside the head and neck region in head and neck cancer

M. Bernsdorf¹, A. Loft², A. Berthelsen¹, L. Specht¹, J. Kjems¹, A. Gothelf¹, C. Kristensen¹, J. Friberg¹

¹Rigshospitalet- University of Copenhagen, oncology, Copenhagen, Denmark

²Rigshospitalet- University of Copenhagen, Clinical Physiology- Nuclear Medicine & PET, Copenhagen, Denmark

Purpose or Objective

Due to lifestyle factors head and neck cancer patients have a high risk of having metastatic disease or a synchronous cancer at the time of diagnosis. Malignancy diagnosed outside the head and neck region can have a profound effect on the clinical approach. At our institution patients referred for curative radiotherapy have been routinely planned with whole-body PET-CT. To determine the incidence of malignant disease outside the head and neck region we examined the planning PET-CT scans of patients with squamous cell carcinoma of the head and neck (SCCHN).

Material and Methods

All patients with SCCHN planned for radiotherapy with curative intent who underwent a whole-body planning PET/CT scan from 2006 - 2012 were eligible. A radiologist and a nuclear medicine physician prospectively evaluated all scans. Any suspicious lesions outside the head and neck region were noted. Using patient files, pathology registers and other clinical systems all eligible patients were retrospectively investigated and evaluated for malignant disease. Confirmation of malignancy, either disseminated SCCHN or a synchronous secondary cancer was done by histological verification or by follow-up imaging.

Results

A total of 1110 patients with primary SCCHN were eligible. Pathological lesions outside of the head and neck region were described in 326 (29%) patients, with 158 patients having lesions suspicious of malignancy, whereas lesions on 168 patients were deemed benign. In total, malignancy was diagnosed in 92 (8.2%) patients of which 56 (61%) was confirmed histological. The malignant lesions comprised 48 patients (4.3%) with metastatic SCCHN, 38 (3.4%) patients with a synchronous cancer, and 6 (0.5%) patients with malignancy of unknown origin. Lung cancer (n=24) was the predominant synchronous cancer. Forty-two patients with pathological lesions outside the head and neck were unresolved due to death within 6 months of diagnosis (n=27), lost to follow-up (n=11) or refused further diagnostic evaluation (n=4). Of the 158 patients with lesions suspicious of malignancy, 76 (48%) patients had a malignant lesion confirmed, whereas it was rejected in 61 (39%) patients. In the 168 patients with lesions deemed benign by PET/CT a malignant lesion was later confirmed in 16 (10%) patients.

Conclusion

Patients with primary SCCHN have a substantial risk of malignant disease outside the head and neck region, which may influence the overall treatment strategy. A PET/CT scan before onset of radiotherapy is clinically useful in identifying these patients. However, a significant proportion of lesions described as suspicious of malignancy were in fact benign.

OC-009 Validation of a prognostic model in 600 patients with squamous cell carcinoma

J.H. Rasmussen¹, H. Katrin², I.R. Vogelius², J. Friberg², B.M. Fischer³, L. Specht²

¹Rigshospitalet- University of Copenhagen, Department of Otorhinolaryngology- Head & Neck Surgery and Audiology, Copenhagen, Denmark

²Rigshospitalet- University of Copenhagen, Department of Oncology- Section Radiotherapy, Copenhagen, Denmark

³Rigshospitalet- University of Copenhagen, Department of Clinical Physiology- Nuclear Medicine & PET- PET & Cyclotron Unit, Copenhagen, Denmark

Purpose or Objective

Disease recurrence is an important clinical endpoint in head and neck cancer and we therefore validated a prognostic model on this endpoint with p16 negative (p16-) and p16 positive (p16+) neck squamous cell carcinoma (HNSCC). In addition, we compared the performance of the validated model with the proposed ICON-S staging for patients with p16+ oropharyngeal SCC (OPSCC)[1] and with UICC staging for other HNSCC.

[1] O'Sullivan B et al. Lancet Oncol 2016

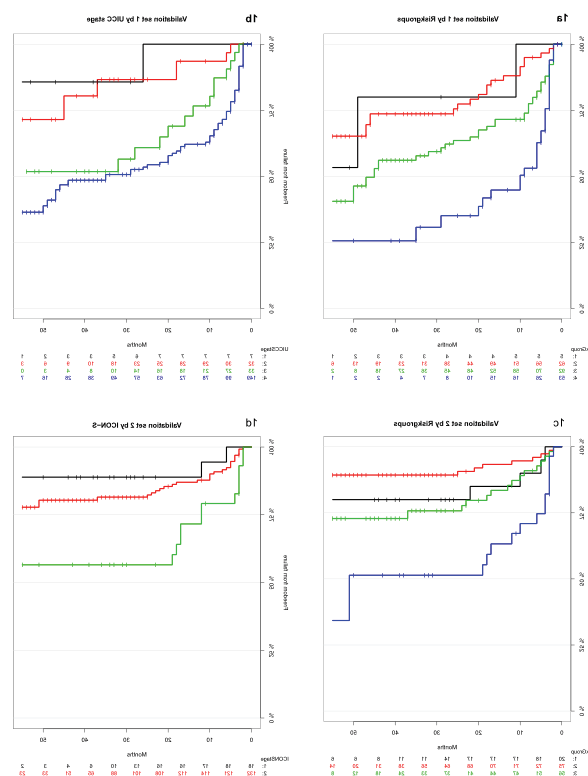
Material and Methods

Consecutive patients with HNSCC (excluding nasopharyngeal carcinomas) and a pre-treatment FDG PET/CT treated with curative intent IMRT at a single institution from 2005 - 2012 were included. The cohort was divided into 3 groups: Training set (p16- OPSCC and non-OPSCC patients treated from 2005 - October 2009),

Validation set 1 (p16- OPSCC and non-OPSCC patients treated from October 2009 - 2012) and Validation set 2 (p16+ OPSCC patients treated from October 2005-2012). We have previously developed and published a prognostic model including four significant variables (treatment with Cisplatin, smoking status, FDG uptake and tumor size; the latter two as continuous variables) in the training set. The prognostic model was used to generate four risk groups based on the predicted risk of disease recurrence after 2 years (Intervals 0-10%; 10-30%; 30-60% and >60%). Here, we test the prognostic model on the two validation sets. The performance of the original model was compared with the UICC staging for validation set 1 and with ICON-S staging for validation set 2. The performance was assessed with concordance index (CI) where a CI=1 corresponds to ideal prognostication and CI=0.5 corresponds to a coin toss.

Results

A total of 600 patients were included. The training set included 168 patients, validation set 1 included 224 patients and validation set 2 included 183 patients (p16 status could not be performed in 25 patients). Figures 1a and 1b depict the Kaplan-Meier (KM) curves of freedom from failure (FFF) in validation set 1 using the prognostic model developed from the training set (1a) and the UICC staging (1b). The prognostic model provides better distinction of patients than the UICC staging system in validation set 1. The CI for UICC staging is 0.63 compared to 0.74 for our validation (p=0.03; table 1). Figures 1c and 1d depict the KM curves of FFF for patients in validation set 2 using the prognostic model developed from the training set (1c) and ICON-S (1d). The distinction between patients is not obviously better with the prognostic model. The CI is slightly better with our prognostication (table 1), but only of borderline significance (p=0.05).



Conclusion

This is a validation of a previously suggested prognostic model. The validated model provides a better prognostication of risk of disease recurrence than UICC